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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/043,532 | 01/11/2002 | Matthew P.J. Baker | GB 010022 | 6232 |

24737 7590 12/02/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

DEAN, RAYMOND S

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2684

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/043,532

Applicant(s)

BAKER ET AL.

Examiner

Raymond S Dean

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 011102,062104.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments regarding the rejection of Claims 1 – 20 filed August 21, 2004 have been fully considered but they are not persuasive.

Mohebbi teaches a multiplicity of base stations (Column 6 lines 41 – 48). Mohebbi and Chen both teach a UMTS system that uses the CDMA air interface. It is well known in the art that a typical UMTS system that uses the CDMA air interface implements closed loop power control on both the forward and reverse links for power efficiency and the minimization of co-channel interference thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the closed loop power control method taught by Chen in the UMTS system of Mohebbi for the purposes of achieving said power efficiency and said minimization of co-channel interference and for the purpose of providing sufficient transmission power to reliably transmit data such that a particular performance level, such as a signal-to-interference-ratio (SIR), is achieved as taught by Chen.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohebbi (US 6,603,971 B1) in view of Chen et al. (US 6,373,823 B1).

Regarding Claim 1, Mohebbi teaches a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Figure 5, Column 6 lines 28 – 32, Column 6 lines 41 – 48, since this is a WCDMA system there are inherent physical control channels for the transmission of control information), and at least one data channel between one or more primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data from the or each selected primary station to the secondary station (Column 6 lines 28 – 32, Column 13 lines 1 - 24, since this is a WCDMA system there are inherent data channels).

Mohebbi does not teach closed-loop power control means provided for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped.

Chen teaches closed-loop power control means provided for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Column 5 lines 41 – 44, Column 5 lines 51 – 60).

Mohebbi and Chen both teach a UMTS system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power

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control means taught in Chen in the UMTS system of Mohebbi for the purpose of providing sufficient transmission power to reliably transmit data.

Regarding Claim 2, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 1. Mohebbi further teaches means provided for encoding each downlink physical control channel, or part thereof, to which a set of control information is mapped with a respective scrambling code to enable the associated primary station to be identified (Column 6 lines 28 – 32, Column 13 lines 1 - 24, since this is a WCDMA system there are inherent spreading codes that distinguish the base stations).

Regarding Claim 3, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 1. Chen further teaches means provided for transmitting power control commands relating to each downlink physical control channel, or part thereof, to which a set of control information is mapped via a single time-multiplexed uplink physical channel (Column 5 lines 26 – 38, Column 5 lines 41 – 44, Column 5 lines 51 – 60, UMTS systems are frame based systems thus there will be time slots and thus there will be time multiplexing).

Regarding Claim 4, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 1. Mohebbi further teaches means responsive to requests from the secondary station are provided for selecting the primary station connected to the or each data channel (Column 13 lines 1 – 24).

Regarding Claim 5, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 1. Mohebbi further teaches means provided for establishing

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a plurality of communication links between a primary station and the secondary station, for determining which of the primary stations comprise selected primary stations, and for determining which of the communication links are selected (Figure 5, Column 13 lines 1 – 28).

Regarding Claim 6, Mohebbi teaches a primary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Figure 5, Column 6 lines 28 – 32, Column 6 lines 41 – 48, since this is a WCDMA system there are inherent physical control channels for the transmission of control information), and at least one data channel between one or more primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data from the or each selected primary station to the secondary station (Column 6 lines 28 – 32, Column 13 lines 1 - 24, since this is a WCDMA system there are inherent data channels).

Mohebbi does not teach closed-loop power control means provided for adjusting the power of some or all physical control channels between the primary station and the secondary station, or parts thereof, to which a set of to control information is mapped.

Chen teaches closed-loop power control means provided for adjusting the power of some or all physical control channels between the primary station and the secondary station, or parts thereof, to which a set of to control information is mapped (Column 5 lines 41 – 44, Column 5 lines 51 – 60).

Mohebbi and Chen both teach a UMTS system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power control means taught in Chen in the UMTS system of Mohebbi for the purpose of providing sufficient transmission power to reliably transmit data.

Regarding Claim 7, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 6. Mohebbi further teaches means provided for acquiring or releasing a data channel in response to changing radio link conditions, thereby becoming or ceasing to be a selected primary station (Column 13 lines 1 – 24).

Regarding Claim 10, Mohebbi teaches a secondary station for use in a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between the secondary station and a plurality of primary stations (Figure 5, Column 6 lines 28 – 32, Column 6 lines 41 – 48, since this is a WCDMA system there are inherent physical control channels for the transmission of control information), and at least one data channel between one or more primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data from the or each selected primary station to the secondary station (Column 6 lines 28 – 32, Column 13 lines 1 - 24, since this is a WCDMA system there are inherent data channels).

Mohebbi does not teach closed-loop power control means are provided for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped.

Chen teaches closed-loop power control means provided for adjusting individually the power of some or all physical control channels or parts thereof, to which a set of to control information is mapped (Column 5 lines 41 – 44, Column 5 lines 51 – 60).

Mohebbi and Chen both teach a UMTS system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power control means taught in Chen in the UMTS system of Mohebbi for the purpose of providing sufficient transmission power to reliably transmit data.

Regarding Claim 11, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 10. Mohebbi further teaches means provided for determining which of the primary stations comprise the selected primary station or stations in response to changing radio link conditions (Column 13 lines 1 – 24).

Regarding Claim 12, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 10. Mohebbi further teaches means provided for transmitting each set of uplink control information over a separate physical channel (Column 7 lines 20 – 24).

Regarding Claim 13, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 12. Mohebbi further teaches means provided for distinguishing the physical channels by use of different channelization codes (Column 6 lines 28 – 32, Column 13 lines 1 - 24, since this is a WCDMA system there are inherent spreading codes that distinguish the channels).

Regarding Claim 14, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 12. Chen further teaches means provided for distinguishing two of the physical channels by transmitting a first physical channel which uses the in-phase component of the carrier and a second physical channel which uses the quadrature-phase component of the carrier (Column 7 lines 30 – 32, since there are transmissions of QPSK signals there will be a in-phase and quadrature component thus this is an inherent characteristic of the wireless system).

Regarding Claim 15, Mohebbi in view Chen teaches all of the claimed limitations recited in Claim 14. Mohebbi further teaches means provided for interrupting an uplink physical control channel when uplink data transmission is required (Figure 5, Column 6 lines 28 – 32, since this is a WCDMA system there are inherent control channels and data channels thus this is an inherent characteristic of the WCDMA system).

Regarding Claim 16, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 10. Chen further teaches means provided for transmitting each set of uplink control information in a time-multiplexed manner over a single physical channel (Column 5 lines 26 – 38, UMTS systems are frame based systems thus there will be time slots and thus there will be time multiplexing).

Regarding Claim 17, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 16. Chen further teaches means provided for achieving the time-multiplexing by reducing the rate of transmission of power control commands (Column 5 lines 26 – 38, Column 5 lines 51 – 60, UMTS systems are frame based systems thus there will be time slots and thus there will be time multiplexing, the power

control commands will be transmitted in a time-multiplexed manner which means that the rate of transmission of said power control commands will be varied).

Regarding Claim 18, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 17. Chen further teaches the reduction of rate is in proportion to a number greater than or equal to the number of primary stations with which sets of control information are exchanged (Column 5 lines 26 – 38, Column 5 lines 51 – 60, UMTS systems are frame based systems thus there will be time slots and thus there will be time multiplexing, the power control commands will be transmitted in a time-multiplexed manner which means that the rate of transmission of said power control commands will be varied, the number of said power control commands is proportional to the number of base stations communicating with the mobile station thus this is an inherent characteristic).

Regarding Claim 19, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 16. Chen further teaches means provided for achieving the time-multiplexing by including separate power control relating to each primary station with which sets of control information are exchanged in a single physical control channel (Column 5 lines 26 – 38, Column 5 lines 51 – 60, UMTS systems inherently have control channels thus this is an inherent characteristic).

Regarding Claim 20, Mohebbi teaches a method of operating a radio communication system having physical control channels arranged for the bi-directional transmission of sets of control information between a secondary station and a plurality of primary stations (Figure 5, Column 6 lines 28 – 32, Column 6 lines 41 – 48, since this

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is a WCDMA system there are inherent physical control channels for the transmission of control information), and at least one data channel between one or more primary stations, selected from the plurality of primary stations, and the secondary station for the transmission of data from the or each selected primary station to the secondary station (Column 6 lines 28 – 32, Column 13 lines 1 - 24, since this is a WCDMA system there are inherent data channels).

Mohebbi does not teach operating respective closed-loop power control means for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped.

Chen teaches operating respective closed-loop power control means for adjusting individually the power of some or all physical control channels, or parts thereof, to which a set of control information is mapped (Column 5 lines 41 – 44, Column 5 lines 51 – 60).

Mohebbi and Chen both teach a UMTS system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the power control means taught in Chen in the UMTS system of Mohebbi for the purpose of providing sufficient transmission power to reliably transmit data.

4. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohebbi (US 6,603,971 B1) in view of Chen et al. (US 6,373,823 B1) as applied to Claim 6 and in further view of Baum et al. (US 6,385,462 B1).

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Regarding Claim 8, Mohebbi in view of Chen teaches all of the claimed limitations recited in Claim 6. Mohebbi in view of Chen does not teach means provided for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped.

Baum teaches means provided for determining operational parameters of the data channel depending on the power level of a physical control channel, or part thereof, to which a set of control information is mapped (Column 4 lines 22 – 28, the MCR is an operational parameter).

Mohebbi in view of Chen and Baum teach a CDMA system that incorporates power control thus it would have been obvious to one ordinary skill in the art at the time the invention was made to use the MCR taught above in Baum in the CDMA system of Mohebbi in view of Chen for the purpose of implementing an adaptive power allocation which can achieve high system capacity and system coverage.

Regarding Claim 9, Mohebbi in view of Chen and in further view of Baum teaches all of the claimed limitations recited in Claim 8. Baum further teaches modulation and/or coding schemes (Column 4 lines 22 – 28).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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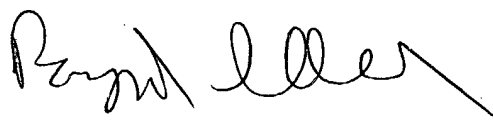
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S Dean whose telephone number is 703-305-8998. The examiner can normally be reached on 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


NAY MAUNG
SUPERVISORY PATENT EXAMINER


Raymond S. Dean
November 27, 2004